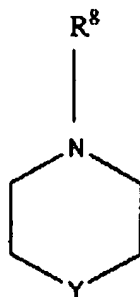


CLAIMS

What is claimed is:

1. (Currently Amended) A process for scavenging hydrogen sulfide and/or mercaptans from a liquid or gaseous stream which comprises bringing the stream into contact with a scavenging effective amount of at least one scavenger selected from the group consisting of a:

- (i.) a 1,3,5-trisalkanylamino hexahydro-1,3,5-triazine derivative;
- (ii.) a nitrogen heterocyclic compound of the formula:



(I)

wherein Y is -N or -O and R⁸ is an aminoalkyl group containing between 2 to 4 carbon atoms;

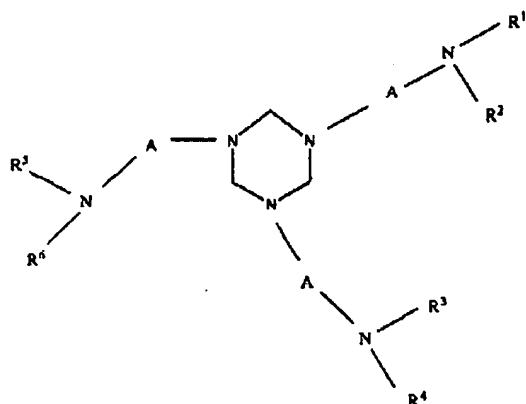
- (iii.) an amine oxide; and

~~(iv.) alkanolamine of the formula (R₄)(R₅)N(R₆)OH wherein R₄ is a C₁-C₁₂ linear or branched alkyl group, R₄ and R₅ are independently selected from hydrogen, R₆ or R₇, OH, and R₇ is methylene or a C₂-C₈ linear or branched alkylene group; or~~

- ~~(vi.)~~ (iv.) an aliphatic or aromatic polyamine

and thereby scavenging hydrogen sulfide and/or mercaptan from the liquid or gaseous stream.

2. (Currently Amended) The process of Claim 1, wherein the at least one scavenger comprises a 1,3,5-trisalkanylamino hexahydro-1,3,5-triazine derivative is of the formula:



(II)

wherein each A is independently selected from the formula $-(CHR^7)_x$ wherein x is from 1 to about 6 and each R^1 , R^2 , R^3 , R^4 , R^5 , R^6 and R^7 is independently selected from -H or a C_1 - C_6 alkyl.

3. (Original) The process of Claim 2, wherein the 1,3,5-trisalkanylamino hexahydro-1,3,5-triazine derivative is 1,3,5-tris[3-(dimethylamino)propyl] hexahydro-1,3,5-triazine, 1,3,5-tris[2-(dimethylamino)ethyl] hexahydro-1,3,5-triazine, 1,3,5-tris[3-(diethylamino)propyl] hexahydro-1,3,5-triazine or 1,3,5-tris[2-(diethylamino)ethyl] hexahydro-1,3,5-triazine.

4. (Currently Amended) The process of Claim 1, wherein the at least one scavenger comprises the nitrogen heterocyclic compound wherein the aminoalkyl group of the nitrogen heterocyclic compound is 2-aminoethyl or 2-hydroxyethyl.

5. (Currently Amended) The process of Claim 1, wherein the at least one scavenger nitrogen heterocyclic compound comprises morpholine bottoms.

6. (Currently Amended) The process of Claim 1, wherein the at least one scavenger comprises an amine oxide is of the formula $(R_1)(R_2)(R_3)N \rightarrow O$ wherein R_1 is an alkyl, alkenyl, alkylarylalkylene, alkenylarylalkylene, alkylaminoalkylene, alkenylaminoalkylene, alkylamidoalkylene, or alkenylamidoalkylene group, wherein each of said alkyl groups contains up to about 24 carbon atoms and may be branched or straight chained and saturated or

unsaturated, and wherein said alkylene groups have from about 1 to about 6 carbon atoms; and R_2 and R_3 are independently aliphatic chains having about 1 to about 30 carbon atoms;

7. (Currently Amended) The process of Claim 6, wherein the amine oxide is of the formula $R-\text{CONHCH}_2\text{CH}_2\text{CH}_2\text{N}^+(\text{CH}_3)_2 \text{O}^-$ wherein R is a radical selected from the group consisting of decyl, cocoyl, lauryl, cetyl and oleyl.

8. (Currently Amended) The process of Claim 4, wherein the at least one scavenger is an alkanolamine is a selected from the group consisting of monoalkanolamine monoalkanolamines, dialkanolamine dialkanolamines and or trialkanolamine trialkanolamines and or a mixture mixtures thereof.

9. (Currently Amended) The process of Claim 21, wherein the alkanolamine is selected from the group consisting of monoethanolamine, monomethanolamine, monopropanolamine, monobutanolamine, monopentanolamine, monohexanolamine, monoheptanolamine, monooctanolamine, monononanolamine, ethyldiethanolamine, dimethanolamine, methanolethanolamine, diethanolamine, methanolpropanolamine, ethanolpropanolamine, dipropanolamine, methanolbutanolamine, ethanolbutanolamine, propanolbutanolamine, dibutanolamine, dipentanolamine, dihexanolamine, diheptanolamine dioctanolamine, triethanolamine and tripropanolamine.

10. (Currently Amended) The process of Claim 1, wherein the at least one scavenger comprises a polyamine containing contains at least two amine groups per molecule.

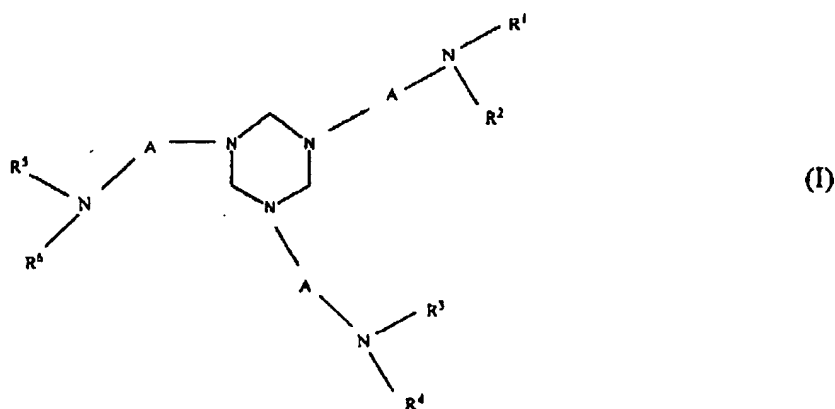
11. (Currently Amended) The process of Claim 10, wherein the polyamine is a polyalkylene or aromatic polyamine having from 1 to about 4 primary or secondary amine groups per molecule of the formula $-\text{N}(\text{R}_8)(\text{R}_9)$ wherein each R_8 and R_9 are independently selected from the group consisting of a -H and or a C_1 - C_6 alkyl, wherein each alkylene group contains between from 2 to about 8 carbon atoms.

12. (Original) The process of Claim 10, wherein the polyamine is dialkylene triamine, trialkylene tetraamine or a pentaalkylene hexamine or a mixture thereof.

13. (Original) The process of Claim 10, wherein the polyamine is N, N'-di-sec-butyl-p-phenylenediamine, tris-(2-aminoethylamine), diethylene triamine, trimethylene tetraamine, pentaethylene hexamine, ethylenediamine, propylenediamine, triethylenetetramine, tetraethylenepentamine, tetrabutylene pentamine, hexaethyleneheptamine, hexapentyleneheptamine, heptaethyleneoctamine, octaethylenenonamine, nonaethylenedecamine, decaethylenundecamine, decahexyleneundecamine, undecaethylenedodecamine, dodecaethylenetridecamine, and tridecaethylenetetradecamine.

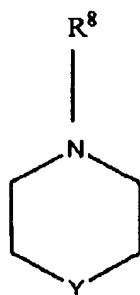
14. (Currently Amended) A process for scavenging hydrogen sulfide and/or mercaptan contaminants from a hydrocarbon stream, comprising mixing the hydrocarbon stream with a scavenging effective amount of at least one a scavenger selected from a the group consisting of:

(i.) 1,3,5-trisalkanylamino hexahydro-1,3,5-triazine derivative of the formula:



wherein each A is independently selected from the formula $-(CHR^7)_x$ wherein x is from 1 to about 6 and each R^1 , R^2 , R^3 , R^4 , R^5 , R^6 and R^7 is independently selected from -H or a C_1 - C_6 alkyl;

(ii.) nitrogen heterocyclic compound of the formula:



(II)

wherein Y is -N or -O and R⁸ is an aminoalkyl group containing between 2 to 4 carbon atoms;

(iii.) amine oxide of the formula (R₁)(R₂)(R₃)N→O wherein R₁ is an alkyl, alkenyl, alkylarylalkylene, alkenylarylalkylene, alkylaminoalkylene, alkenylaminoalkylene, alkylamidoalkylene, or alkenylamidoalkylene group, wherein each of said alkyl groups contains up to about 24 carbon atoms and may be branched or straight chained and saturated or unsaturated, and wherein said alkylene groups have from about 1 to about 6 carbon atoms; and R₂ and R₃ are independently aliphatic chains having about 1 to about 30 carbon atoms; and

~~(iv.) alkanolamine of the formula (R₄)(R₅)N(R₆)OH wherein R₆ is a C₄-C₁₂ linear or branched alkyl group, R₄ and R₅ are independently selected from hydrogen, R₆ or R₇-OH, and R₇ is methylene or a C₂-C₈ linear or branched alkylene group; or~~

~~(iv.)~~ (vi.) aliphatic or aromatic polyamine

and thereby scavenging hydrogen sulfide and/or mercaptan contaminants from the hydrocarbon stream.

15. (Currently Amended) The process of Claim 14, wherein the at least one scavenger comprises a 1,3,5-trisalkanylamino hexahydro-1,3,5-triazine derivative selected from the group consisting of 1,3,5-tris[3-(dimethylamino)propyl] hexahydro-1,3,5-triazine, 1,3,5-tris[2-(dimethylamino)ethyl] hexahydro-1,3,5-triazine, 1,3,5-tris[3-(diethylamino)propyl] hexahydro-1,3,5-triazine and ~~or~~ 1,3,5-tris[2-(diethylamino)ethyl] hexahydro-1,3,5-triazine.

16. (Currently Amended) The process of Claim 14, wherein the at least one scavenger comprises at least one amine oxide ~~is~~ of the formula:



wherein R is a radical selected from the group consisting of decyl, cocoyl, lauryl, cetyl and oleyl scavenger is an alkanolamine selected from

17. (Currently Amended) The process of Claim 23 47, wherein the at least one scavenger is an alkanolamine is selected from the group consisting of monoethanolamine, monomethanolamine, monopropylamine, monobutanolamine, monopentanolamine, monohexanolamine, monoheptanolamine, monooctanolamine, monononanolamine, ethyldiethanolamine, dimethanolamine, methanolethanolamine, diethanolamine, methanolpropylamine, ethanolpropylamine, dipropylamine, methanolbutanolamine, ethanolbutanolamine, propylbutanolamine, dibutanolamine, dipentanolamine, dihexanolamine, diheptanolamine dioctanolamine, triethanolamine, and tripropylamine.

18. (Currently Amended) The process of Claim 14, wherein the at least one scavenger comprises a polyamine containing ~~contains~~ at least two amine groups per molecule.

19. (Original) The process of Claim 18, wherein the polyamine is a polyalkylene or aromatic polyamine having from 1 to about 4 primary or secondary amine groups per molecule.

20. (Currently Amended) The process of Claim 14, wherein the at least one scavenger comprises a polyamine is selected from the group consisting of N, N'-di-sec-butyl-p-phenylenediamine, tris-(2-aminoethylamine), diethylene triamine, trimethylene tetraamine, pentaethylene hexamine, ethylenediamine, propylenediamine, triethylenetetraamine, tetraethylenepentamine, tetrabutylpentamine, hexaethyleneheptamine, hexapentyleneheptamine, heptaethyleneoctamine, octaethylenenonamine, nonaethylenedecamine, decaethyleneundecamine, decahexyleneundecamine, undecaethylenedodecamine, ~~dodecaethylenetridecamine~~, dodecaethylenetridecamine and tridecaethylenetetradecamine.

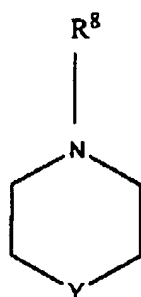
21. (New) A process for scavenging mercaptans from a liquid or gaseous stream which comprises bringing the stream into contact with a scavenging effective amount of an alkanolamine of the formula $(R_4)(R_5)N(R_6)OH$ wherein R_6 is a C_1 - C_{12} linear or branched alkyl

group, R_4 and R_5 are independently selected from hydrogen, R_6 or R_7 -OH, and R_7 is methylene or a C_2 - C_8 linear or branched alkylene group and thereby scavenging mercaptans from the liquid or gaseous stream.

22. (New) The process of Claim 21, wherein the liquid stream is selected from the group consisting of liquefied petroleum gas, crude oil, petroleum residual oil and heating oil.

23. (New) A process for scavenging hydrogen sulfide and/or mercaptans from a liquid or gaseous stream which comprises bringing the stream into contact with a scavenging effective amount of at least one scavenger selected from the group consisting of a:

- (i.) 1,3,5-trisalkanylamino hexahydro-1,3,5-triazine derivative;
- (ii.) nitrogen heterocyclic compound of the formula:



(I)

wherein Y is -N or -O and R^8 is an aminoalkyl group containing between 2 to 4 carbon atoms;

- (iii.) amine oxide;
- (iv.) alkanolamine of the formula $(R_4)(R_5)N(R_6)OH$ wherein R_6 is a C_1 - C_{12} linear or branched alkyl group, R_4 and R_5 are independently selected from hydrogen, R_6 or R_7 -OH, and R_7 is methylene or a C_2 - C_8 linear or branched alkylene group; or
- (v.) aliphatic or aromatic polyamine

and thereby scavenging hydrogen sulfide and/or mercaptans from the liquid or gaseous stream wherein the scavenger is added neat or diluted with a solvent selected from the group consisting of alcohols, esters, benzene, benzene derivatives, acetone, kerosene and aromatic naphtha.